

Global Standards in a Shifting Economy

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INTRODUCTION

Good morning. I was so delighted when Belinda asked if I would join you today, because I thought that I would have a chance to see a lot of familiar faces that I hadn't seen in a number of years. I started seeing people yesterday and again this morning when I walked in. I kept seeing people that I hadn't seen in all this time, and it really has been just a wonderful reunion for me.

Since I left NIST four years ago, I have been involved in a whole host of new adventures, none of them explicitly in the standards world, and yet I found that everywhere I went, standards were just pervasive. They were in every aspect of the things that I was trying to do. The first thing I did when I left here was to serve as the Chief Technology Officer in a \$2 billion corporation that was selling materials and components. After that, I ran a laboratory that was generating really amazing new ideas on how consumers would use information technology and new applications in their homes. As Rich Kayser mentioned, literally just two weeks ago yesterday, I joined the Venture Capital firm. Again, everywhere I turned, I would find while we were going about our business that standards just were pervasive in everything that we were doing. It was every different facet of the standards that you all are involved in building and developing, and propagating through the world. Standards issues, as you won't be surprised to hear, came up in terms of manufacturing quality issues, in terms of the safety of products that people were going to use in their cars and in their homes, and in terms of information technology.

Interoperability standards are key in so much of the information technology arena. As we thought about how consumers would use new technologies, we realized we would really need things that consumers could just plug and play and make happen. The interoperability of those things became incredibly important. Most recently after I joined U.S. Venture Partners, we spent four days last week at our annual off-site planning for the next year, and an amazing amount of our conversation had to do with what is going on in the internet infrastructure. Again it really struck me how key standards will be to take us to the next level—to really start to get the efficiency in that infrastructure that is going to let us see the scaling and the kinds of functional business models that will help us move forward in that arena.

So while I have left NIST, where standards are its bread and butter, I still find that I am immersed in a

world where standards matter every single day, and in just in an enormous variety of ways. I continue to be grateful to all of you and the communities that you represent for making that possible. Every time I am in a meeting and someone starts talking about standards, inside my head I am picturing this huge community.

I think that a lot of people do take standards for granted. I have always argued that one of the great successes of a technology infrastructure activity is that when you succeed that people take you for granted. In many cases, that is the outstanding outcome. The fact that in all of these conversations that standards do continue to come up, means that of course that our work is never done. I think that we have to just recognize that this work is never done, particularly today when we live in a time of continuing rapid progress and technologies across the board; and when we live in a period of expanding globalization. We can only come to milestones. We can never really come to a finish line, which I think is good news, because it is going to keep all the momentum in this business moving for quite some time.

THE STANDARDS COMMUNITY—10 YEARS AGO

So when Belinda asked if I would speak here, I started thinking about the standards part of the work that I had done at NIST. As you know, NIST has been building on its strong foundation as the National Bureau of Standards for the first many decades of its life, while expanding into many other arenas. The absolutely necessary foundation for that, I believe, is the standards activity.

These thoughts led me to remember what my first exposure was to the U.S. standards community. I started interviewing for this job here at NIST, while I was still over at DARPA in my previous life, where I thought much more about technologies, but not really very explicitly about standards, or the process by which we got standards. I was able to talk to some of my family members about this adventure that I was thinking about launching into, and was talking with my cousin one night. At that time, he was working at a Congressional Agency, the Office of Technology Assessment, where I actually had also worked at one time. When I told my cousin about going to NIST, his eyes got really wide, and he said "did you see the report that OTA had just done on standards," to which I said, "no, I hadn't."

My cousin got the report for me, and when I looked at it—you know I had worked in the congressional agency, and you all know what government reports are like. They are usually extremely dry documents, with many facts, but not much life. But this particular report was about standards, the standards process, and looking at how it worked in the United States. As I read, I realized that while standards may seem like a dry topic and a dry government report, there was actually an incredible teeming, exciting story in here, and not all of it was completely positive.

As I was reading the report, I came across a paragraph in the summary that talks about personality conflicts in the standards community, and I quote, “some dating back a number of years.” It goes on to say there is little trust among the leadership. People characterize one another in highly acrimonious terms. And I thought, “my, that is sort of interesting.” Then I noticed that there was a footnote to this sentence, and down in the footnote was this somewhat amazing explanation. It went on to say that among the terms used during the OTA interviews to describe members of the community were “scum ball,” “liar,” and “sleeze,” to name a few. And I thought, “my word, I thought that this was a mild-mannered standards community, and everyone must love each other and get along, and how can this be?” The report went on to say in the footnote that *“some reviewers of the OTA draft believe that it is inappropriate to use such terminology in a government report. However, many of these same people argue that OTA has exaggerated the turf battles and personality conflicts within the standards community. Because these words illustrate the intensity of feeling and negative tone of the competition among standards organizations, OTA chose to retain them in the final document.”*

I came to realize through this minuscule footnote that not only was there an immense battle raging in the standards community apparently, but they also had picked a battle with the author of this report. It seemed like it must have been quite an interesting time. The report went on to describe the impact of this situation, where we in the United States have an enormous number of people working very, very hard on standards, but in fact where there was also a deep sense that things were not meshing in a way that was most advantageous to our industry, to our economy, and to our society as a whole. Outside of the United States, there was also a feeling that the mess of the situation that we had here, to be very blunt, was also having a very important impact at the global level, and that we were not able to play the role that we needed to play as a major economy in the global standards process. It was actually a fairly daunting indictment of a situation that I thought certainly needed some improvement as I read it. So I read all of this,

and I thought, “oh, I thought standards were going to be the easy part of going to NIST. What have I gotten myself into?”

NIST ROLE IN STANDARDS

When I arrived at NIST, one of the things that I found was that Bob Hermann was on my visiting committee (the Visiting Committee on Advanced Technology) for NIST. He was also very deeply involved with the American National Standards Institute (ANSI). In talking with him, and talking with many other leaders in this community who really saw the necessity for a really powerful, capable, fully functional standards process in this country, I came to realize that this needed to be one of my key priorities. I had to try to play NIST’s role in this national system of standards organizations to make this be a much more powerful process than we had. I came here to NIST to do a number of things, and thought a lot of my focus as I came in would be specifically on building the Advanced Technology Program into a national scale effort; building the Manufacturing Extension Partnership to a national effort; and taking Baldrige to the next level of education and health care. While I spent a lot of time on those things, and I feel very proud of the accomplishments that we made in those areas, but standards were always on my short list of the things that I would put time and effort into.

By teaming up with Sergio Mazza, who through a miracle of timing had come to ANSI as its President and CEO at the same time that I came to NIST, I really feel that we were able to start making some changes in the relationships.

So as I look at the standards community, what has not changed is that we continue to have hundreds and thousands of deeply dedicated individuals. NIST contributes to that process, but all of your organizations and industry also contribute. People at all different levels are really getting in there and rolling up their sleeves and trying to make a difference through the standards process, where I think we have made great progress.

I feel very, very pleased to have been able to contribute to that, in bringing the organizational structure and the leadership in alignment in a way that really lets us tap the power of all of these people who are really earnestly working very, very hard to use standards to make a difference. During my early time at NIST, around ’93, Sergio Mazza and I both were able to use the fact that we had come out of different backgrounds, and that we didn’t really know a lot about the standards community to say, look, let’s see if we can move to a new mode of operation. We really felt that there was too much at stake not to really take this whole process to a

new level, and to a much more productive level. To my delight, people across the community were willing to dive in and help make this change happen.

NATIONAL COOPERATION—THE PATH TO THE FUTURE

I believe that we started down a very good path. Among other things, we were able to sign as Rich Kayser mentioned—the first MOU between ANSI and NIST. That became a platform for building a very good new relationship between the two organizations, as well as a platform for reaching out into the much broader set of organizations across the community. I was very happy to notice that Ray Kammer, who was the NIST Director after me, and Mark Hurwitz, who is the new president of ANSI, were able to sign a third revision of that MOU just last December. So that to me is a very encouraging sign that we are continuing on this path.

I was also very, very proud to see the work that all of you had done that culminated in the National Standards Strategy. First of all, I love the cover, because the picture of chess moves I think is exactly what this business is about, and so I thought that was a wonderful image. As I started reading it, I was truly amazed at the strength of the convictions that were expressed in that document. So often when you have a document put together by many, many people, —you know, a camel is a horse built by a committee—that I was a little fearful of what I would find when I folded the cover open. But I was delighted at the strength of the statements that you all were able to make as a group, and the things that you were able to commit to as a group. It gave me great confidence that we have now reached a new plateau, a new level for the way our standards community in the United States works together.

I feel very, very, good about that progress. As I think about what lies ahead—my view has always been that particularly in the arena where we all live, where the world is changing very rapidly around us—it really is not an option to stand still. So, in going forward, it is a time to celebrate a lot of accomplishments. It is also a time to rev up our engines for the next round, because if we don't keep this momentum moving forward, the only thing that will happen is that we are going to slip back into a way of working that is not nearly as effective as the path that I think we are on.

There are in fact a number of important challenges that lie ahead. Just the work of keeping the technical quality of standards, and the standards process, at the highest possible level is a full-time activity. NIST,

of course, has always taken seriously its role in providing the measurement infrastructure, the measurement standards, and much of the technical basis that underpin standards. I am very pleased to see the leadership since I have left also focusing very hard on that, since it is something again that reaches across the whole community.

Participation in the standards process is another thing that we can't take for granted. In companies, in all parts of the economy, it is very, very difficult, particularly as the economy goes through the shifts that we now are going through. It becomes increasingly difficult to find the resources to have people travel and to have an individual put the necessary cycles into the standards process to create useful standards. Yet, those are things we really can't step back from, because the impact ultimately for us as an economy and as a society is just too devastating if we don't have that full participation. Standards set in a vacuum, or standards set off in a corner by people who are not fully engaged in the technologies, the businesses, and the economic and social issues, are not standards that will work. Full participation continues to be an ongoing challenge. Keeping a focus on the objective of the standards process is also essential. After all, we are not making standards just because we want to write something down. We are doing it because of the role that standards play in facilitating the growth of our economy in building the social structures that help ensure health, safety, and the quality of our environment, and keeping an eye on those objectives is extremely important. It is very easy to slip into just looking at the process without remembering why we are doing it, and how we need to be optimizing it. I think that continues to be an incredibly important piece of the puzzle.

A key fact as we go forward is that our world economy becomes more and more global every single day. Thus, in our global economy, having a strong U.S. standards process is an incredibly important first step, but it is only a first step.

We are so fortunate today to have people from all different parts of the world participating in all different aspects of the standards process. They are continuing to build those relationships, find the best practices, and use the best ways of thinking about how to move standards forward from around the world. That continues to be a very important opportunity, and a very important challenge. I think we can be far more effective today because of the fact that we have straightened out our national standards system as well.

So as we stand here today celebrating this centennial, we can take pride that we have built a very, very powerful base on which to stand. We have put in place so many of the features that will be necessary to take us forward to the next many steps. NIST, your organizations, and our inter-relationships have all the key ingredients. It should be a very interesting next decade and next century, and I really look forward to continuing to work with all of you as we go forward into those challenges.

Thanks very much, and I hope that you have an excellent meeting.